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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,154	02/13/2004	Krishna V. Kotipalli	306213.01	5107
22971	7590	11/17/2010		
MICROSOFT CORPORATION ONE MICROSOFT WAY REDMOND, WA 98052-6399			EXAMINER HE, JIALONG	
			ART UNIT	PAPER NUMBER
			2626	
			NOTIFICATION DATE	DELIVERY MODE
			11/17/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ntovar@microsoft.com  
p5docket@microsoft.com

**Office Action Summary****Application No.**

10/777,154

**Applicant(s)**

KOTIPALI, KRISHNA V.

**Examiner**

JIALONG HE

**Art Unit**

2626

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6, 9, 10, 25, 28, 29, 32, 33, 35, 43, 45-47 and 50-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6, 9, 10, 25, 28, 29, 32, 33, 35, 43, 45-47 and 50-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Response to Amendments*

2. Applicant amended claims 43, 51 and 52, rejection to these claims under 35 U.S.C. 101 is withdrawn.
3. Applicant cancelled claims 8, 48 and 49, rejection to these claims under 35 U.S.C. 112, 1<sup>st</sup> paragraph is withdrawn.

### *Response to Arguments*

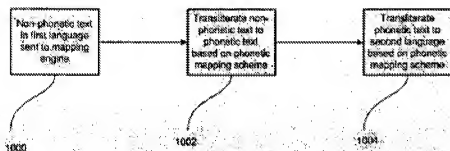
4. Applicant's arguments filed on 10/29/2010 have been fully considered but they are not persuasive for the following reasons.

Regarding rejection under 35 U.S.C. 112 1<sup>st</sup> paragraph to independent claim 53, the applicant argues (Remarks, page 11) *"It is respectfully submitted that an ability to determine if a direct mapping scheme **is not** available implies an ability to determine if the direct mapping scheme **is** available."* (Emphasis in the Remarks).

The Examiner notes that claim 53 is **not original claim**. This claim is added in the amendment filed on 06/14/2010. For new or amended claims, to satisfy the written description requirement, a patent specification must describe the claimed invention in

**sufficient detail** that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention (MPEP 2163, I). The Examiner duplicates fig. 10 and associated description in paragraph [46]

**FIG. 10**



[46] Referring briefly to Figure 10, the flow of converting from a first language to a second language using an intermediary is shown where there is no direct mapping scheme available from the first language to the second language. In this example, transliteration from Hindi text to Telugu text is shown. In step 1000, the Hindi text is sent to phonetic mapping engine 502. In step 1002, phonetic mapping engine 502 uses the Hindi phonetic mapping scheme (shown in Figure 6) to map the Hindi characters into a phonetic English language string. Finally, in step 1004, phonetic mapping engine 502 takes the phonetic English language string and converts it to Telugu based on the Telugu phonetic mapping scheme (shown in Figure 7). Thus, by using the English language phonetic mapping as an intermediary that the two languages share in common, the user is able to transliterate Hindi into Telugu.

It is clear that the disclosure only shows that if there is no direct mapping between two Indic languages, English is used as an intermediary language (e.g., Hindi -

> English -> Telugu). There is no disclosure that maps two Indic languages directly. It appears the Applicant wants the Examiner to do reasoning or deduction based on the argument "*implies an ability to determining ...* ". However, 35 U.S.C. 112 1<sup>st</sup> paragraph requires the original disclosure provides detailed support to the new claims, not based on reasoning or deduction. The rejection to claim 53 under 35 U.S.C. 112 1<sup>st</sup> paragraph is maintained.

Regarding rejection to independent claims 6, 43 and 53, the applicant argues Virga ("Transliteration of proper names in cross-language information retrieval", ACL 2003) fails to teach "*the second alphabet different than the first alphabet*" because both English and Pinyin use the Latin alphabet; "*It is respectfully submitted that transliterating an English name to Chinese characters through Pinyin, which uses a Latin alphabet (e.g., the first and second alphabets are not different), as taught by Virga, does not teach converting a text string in a first alphabet to a phonetic string in a second alphabet based on a first predefined phonetic mapping scheme between the first alphabet and the second alphabet, the second alphabet different than the first alphabet;*" (Emphasis in Remarks).

The Examiner respectfully disagrees and noted that although Pinyin uses some Latin characters to represent pronunciation. There are characters used in English but not used in Pinyin. For example, alphabet "**V**" is used in English but not used in Pinyin. Similarly, alphabet **Ü** (Umlaut of U) is used in PinYin, but not used in English (See

**explanations for PinYin in an article of Wikipedia - a free encyclopedia, a reference cited but not relied upon).** Therefore, alphabet of English is different than alphabet of PinYin.

The Examiner further notes that Chinese characters are different from alphabet of PinYin and are also different from English alphabets ("the third alphabet different than the second alphabet and different than the first alphabet" as claimed).

The applicant argues dependent claims are allowable because dependency from independent claims 6, 43 and 53. For the same reasons explained above. The arguments are not persuasive.

#### ***Claim Rejections - 35 USC § 112***

5. Claims 53-56 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 53 recites conditional relations ("if a direct mapping scheme does not exist ..."; "if it is determined that a direct mapping scheme does exist; converting the text

string in the first alphabet to a phonetic string in the second alphabet based upon the direct mapping scheme.”)

The Examiner could not find fully support for the claimed conditional relationship from the original disclosure. The only relevant section is in paragraph [46] which only states "where there is no direct mapping scheme available from the first language to the second language". The claim 53 is dealing with the situation of using three languages (first, second, and third languages). The only relevant section related to using intermediary language is in paragraph [46] and fig. 10. These sections do not have fully support for the claimed conditional relationship.

Claims 54-56 depend from claim 53 and have all limitations of claim 53.  
Therefore, claims 54-56 are rejected.

***Claim Rejections - 35 USC § 103***

6. Claims 6, 9, 10, 28-29, 32-33, 35, 43 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janakiraman et al (US Pat. 7,369,986, previously cited, hereinafter referred to as Janakiraman) in view of Virga et al. ("Transliteration of proper names in cross-language information retrieval", ACL 2003, previously cited, hereinafter referred to as Virga).

Regarding claims 6 and 43, Janakiraman discloses a computer implemented method and computer readable medium (**fig. 3**) for transliterating languages in a computing device comprising:

receiving a text string in a first alphabet on an input of the computing device wherein the text string is inputted by a user (**col. 7, col. 7, lines 10-25, Fig. 4A-4E, receiving typed messages from a keyboard, fig. 5A, Tamil version, fig. 5C, English version**);

converting the text string in the first alphabet to a phonetic string in a third alphabet based on a first predefined phonetic mapping scheme between the first alphabet and the third alphabet, the third alphabet different than the first alphabet (**col. 6, lines 7-20, fig. 4A –fig 4E, transliteration Tamil language Governor to “aaLuunjar”**);

Janakiraman discloses using English characters to represent various Indic languages used in India by transliteration (**title and Abstract**). Janakiraman does not disclose transliteration through an intermediary language.

Virga discloses transliteration English name to Chinese name represented as Chinese characters (**Virga, fig. 1**). Because there is no direct mapping between English name and Chinese characters, the transliteration is done through PinYin, an intermediary alphabet (**Virga, fig. 1, and section 2, translation model training; A**



**person having ordinary skill in the art would know that English alphabet "V" is not used in PinYin, and umlaut character Ü in PinYin is not used in English; in other words, English alphabet is different from PinYin alphabet).**

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Janakiraman's teaching with Virga's teaching to transliterate English name to Chinese characters through Pinyin (intermediary alphabet). One having ordinary skill in the art would have been motivated to make such a modification so that the transliteration could be done more accurately and the result Chinese names would have similar sound as the original English names.

Regarding claim 9, Janakiraman further discloses the first alphabet is an Indic language and the third alphabet is another Indic language (**col. 1, lines 45-55, transliterating a selected word to a target language, col. 1, lines 14-20, target languages could be Hindi, Sanskrit, Urdu and all 18 India official languages**).

Regarding claim 10, the combined teaching further discloses where the first alphabet comprises a first set of characters, the second alphabet comprises a second set of characters, the third alphabet comprises a third set of characters, the first set comprises at least one character not comprised in the second set, the first set comprises at least one character not comprised in the third set, the second set comprises at least one character not comprised in the first set, the second set

comprises at least one character not comprised in the third set, the third set comprises at least one character not comprised in the first set, and the third set comprises at least one character not comprised in the second set (**Janakiraman, fig. 4E, English and Indic have different alphabet; Virga, fig. 1 and fig. 2, English -> PinYin -> Chinese characters; PinYin does not use "V" as in English and English does not use "Ü" as in PinYin. English and Pinyin are different from Chinese characters**)

Regarding claim 28, Janakiraman further discloses the phonetic string in the third alphabet contains at least one character that is not present in the text string in the first alphabet **col. 6, lines 10-20, fig. 4A, Tamil writing and English language using different characters**).

Regarding claim 29, the combined teaching of Janakiraman and Virga further discloses the phonetic string in the third alphabet contains at least one character that is not present in the phonetic string in the second alphabet (**Janakiraman, col. 1, lines 12-40, different Indian languages and English use different characters; Virga, fig. 1, Chinese Pinyin uses Umlaut**).

Regarding claim 32, Janakiraman further discloses wherein the input is a keyboard that is configured to receive the text string in the first alphabet from a user (**fig. 3, #320**).

Regarding claim 33, Janakiraman further discloses displaying the phonetic string in the third alphabet to the user on an output device (**fig. 4, 4A-4E**).

Regarding claim 35, the combined teaching of Janakiraman and Virga further discloses there is no predefined phonetic mapping scheme between the first alphabet and the third alphabet such that the text string in the first alphabet cannot be converted directly to a phonetic string in the third alphabet (**Janakiraman col. 1, lines 12-42, no mapping between many different Indic languages such as between Hindi and Sanskrit; Virga, no mapping between English and Chinese characters**).

Regarding claim 45, the combined teaching of Janakiraman and Virga further discloses wherein the phonetic string in the second alphabet comprises at least one character that is not present in the text string in the first alphabet (Janakiraman, fig. 4, col. 1, lines 12-22, Hindi, Sanskrit etc have different alphabet; Virga, Pinyin has at least one character not presented in English, e.g., umlaut U).

7. Claims 46, 47, 50-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janakiraman in view of Virga and further in view of Schafer et al. ("Inducing translation lexicons via diverse similarity measures and bridge languages"., Proceedings of 6<sup>th</sup> conference on natural language learning, 2002).

Regarding claims 46 and 51, Janakiraman discloses transliteration between English and various Indian languages. Virga discloses transliterating English name to Chinese characters through intermediary Pinyin. Janakiraman and Virga does not explicitly states determining whether a direct mapping scheme exists between the first alphabet and the third alphabet.

Schafer discloses translation lexicons among various languages. If there is no direct translation between two languages, Schafer uses a bridge language (**Schafer, fig. 1, for example, no direct translation between English and Bengali, the translation is done using Hindi as an intermediary language**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Janakiraman and Virga's teaching with Schafer's teaching to determining if there is direct mapping between English and Bengali. One having ordinary skill in the art would have been motivated to make such a modification so that people could obtain translation lexicons which does not have direct translation to English but could be indirectly translated through a bridge language (Schafer, Abstract).

Regarding claims 47 and 52, the combined teaching of Janakiraman, Virga and Schafer teaches the second alphabet is an intermediary used to convert the text string in the first alphabet to the phonetic string in the third alphabet when the text string in the first alphabet cannot be directly converted into a phonetic string in the third alphabet

from the text string in the first alphabet (**Virga, fig. 1, Pinyin** (second alphabet); **Schafer, fig. 1, Hindu** (second alphabet)).

Regarding claim 50, the combined teaching of Janakiraman, Virga and Schafer teaches wherein the phonetic string in the second alphabet comprises at least one character that is not present in the text string in the first alphabet (**Schafer, fig. 1**).

Regarding claim 53, Janakiraman discloses a method for transliterating languages in a computing device comprising:

receiving a text string in a first alphabet on an input of the computing device (**Janakiraman, fig. 3**);

converting the text string in the first alphabet to a phonetic string in the second alphabet based upon the direct mapping scheme (**Janakiraman, fig. 4**).

Janakiraman discloses using English characters to represent various Indic languages used in India by transliteration (**title and Abstract**). Janakiraman does not disclose transliteration through an intermediary language.

Virga discloses transliteration English name to Chinese name represented as Chinese characters (Virga, fig. 1). Because there is no direct mapping between English name and Chinese characters, the transliteration is done through PinYin, an intermediary alphabet (Virga, fig. 1, and section 2, translation model training).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Janakiraman's teaching with Virga's teaching to transliterate English name to Chinese characters through Pinyin (intermediary alphabet). One having ordinary skill in the art would have been motivated to make such a modification so that the transliteration could be done more accurately and the result Chinese names would have similar sound as the original English names.

Janakiraman discloses transliteration between English and various Indian languages. Virga discloses transliterating English name to Chinese characters through intermediary Pinyin. Janakiraman and Virga does not explicitly states determining whether a direct mapping scheme exists between the first alphabet and the third alphabet.

Schafer discloses translation lexicons among various languages. If there is no direct translation between two languages, Schafer uses a bridge language (**Schafer, fig. 1, for example, no direct translation between English and Bengali, the translation is done using Hindi as an intermediary language**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Janakiraman and Virga's teaching with Schafer's teaching to determining if there is direct mapping between English and Bengali. One having ordinary skill in the art would have been motivated to make such a modification


so that people could obtain translation lexicons which does not have direct translation to English but could be indirectly translated through a bridge language (Schafer, Abstract).

New claim 54 is similar to claim 10 and is rejected based on similar reason. See rationale in claim 10.

Regarding new claim 55, the combined teaching further discloses displaying a hooked input to a user, the hooked input comprising the phonetic string in the first alphabet and the phonetic string in the second alphabet (**Janakiraman, fig. 3E, #320, keyboard and mouse, fig. 4E, displaying user input and translation results, Tamil - > English; Note, user input from a keyboard and mouse is based on hooked interrupt service procedures (hooked input); Virga, transliteration English -> PinYin -> Chinese characters**).

Regarding new claim 56, the combined teaching further discloses comprising sending the phonetic string in the second alphabet to an active application in response to receiving a termination character (**Janakiraman, fig. 4A-4E; col. 7, lines 10-25, when user depresses a key on a keyboard, moves mouse or click a mouse button (receiving a termination character), transliteration module displays transliteration on a window**).

8. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Janakiraman in view of Virga and further in view of Zsigri ("Learn Zhuyin", published online August, 2000, retrieved from <http://www.archive.org>, archived on 10/18/2002).

Regarding claim 25, Janakiraman in view of Virga discloses transliteration English name to Chinese characters through Pinyin. It is known PinYin (which is used in mainland China) has at least one character is not used in English ("Ü"). Similarly, "V" is used in English but not in PinYin. Chinese characters are totally different than English and PinYin. Janakiraman in view of Virga do not disclose a majority of characters are different between English and PinYin. Zsigri discloses ZhuYin which has the same function to label pronunciation of Chinese characters but is used in Taiwan (**Zsigri, comparing ZhuYin and PinYin in various tables; for example in first table,  in ZhuYin corresponding to "b" in PinYin).**

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to substitute PinYin with ZhuYin as taught by Zsigri when transliterating English name to a name in Chinese characters. **(English -> ZhuYin -> Chinese Characters; Examiner notes that English, ZhuYin and Chinese characters are totally different, that is, a majority are not comprised as claimed).** One having ordinary skill in the art would have been motivated to make such a modification so that it is convenient for people in Taiwan to translate English names to Chinese characters. Besides, "Simple substitution of one known element for another or the mere application



of a known technique to a piece of prior art ready for the improvement." KSR, 550 U.S. \_\_\_, 82 USPQ2d at 1395 (2007). One of ordinary skill in the art would have recognized that the results of the simple substitution were predictable.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JIALONG HE whose telephone number is (571) 270-

5359. The examiner can normally be reached on Monday-Thursday, 7:00 - 4:30, Alt Friday, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Wozniak can be reached on (571) 272-7632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James S. Wozniak/  
Supervisory Patent Examiner, Art Unit 2626  
/JH/